

Claim listing:

Claims 1-60 (canceled)

Claim 61 (previously presented) A male fastener, comprising:

- a) a shaft that includes an axis, a first end, and a second end;
- b) the shaft is provided with a trilobular shape with a first threaded surface and a second threaded surface;
- c) the first threaded surface includes a first locking thread, a first guide thread, and a first conventional thread;
- d) the second threaded surface includes a second locking thread, a second guide thread, and a second conventional thread;
- e) the first guide thread includes a first guide means for guiding the threads on the shaft into mating alignment with a first female thread of a first female threaded member;
- f) the second guide thread includes a second guide means for guiding the threads on the shaft into mating alignment with a second female thread of a second female threaded member;
- g) the first guide thread is generally located at the first end of the shaft and leads directly into the first conventional thread, the second guide thread is generally located at the second end of the shaft and leads directly into the second conventional thread;
- h) the first conventional thread is provided with a first generally Vee-shaped root including a first root diameter configured to mate with the first female thread of the first female threaded member so as to be freely rotatable thereon;
- i) the second conventional thread is provided with a second generally Vee-shaped root including a second root diameter configured to mate with the second female thread of the second female threaded member so as to be freely rotatable thereon;
- j) the first conventional thread and the second conventional thread include a generally constant shape that extends for a plurality of turns, the first

- conventional thread leads directly into the first locking thread, the second conventional thread leads directly into the second locking thread; and
- k) the first locking thread includes a first root surface provided with a third root diameter that is greater than the first root diameter, the second locking thread includes a second root surface provided with a fourth root diameter that is greater than the second root diameter, wherein the first locking thread is configured to re-form the first female thread to resist relative rotation between the shaft and the first female threaded member, and the second locking thread is configured to re-form the second female thread to resist relative rotation between the shaft and the second female threaded member.

Claim 62 (previously presented) The male fastener according to claim 61, wherein at least one of the root surfaces is angled relative to the axis of the shaft.

Claim 63 (previously presented) The male fastener according to claim 61, wherein at least one of the root surfaces is at an angle between four and eight degrees relative to the axis of the shaft.

Claim 64 (previously presented) The male fastener according to claim 61, wherein at least one of the guide means includes a curved surface located between a first side and a second side.

Claim 65 (previously presented) The male fastener according to claim 61, wherein at least one of the guide means includes a curved surface located between a first side that is curved and a second side that is curved.

Claim 66 (previously presented) The male fastener according to claim 61, further comprising a conical surface that is provided on the male fastener.

Claim 67 (previously presented) The male fastener according to claim 61, further comprising a conical surface and a cylindrical surface that are provided on the male fastener.

Claim 68 (previously presented) The male fastener according to claim 61, further comprising:

- a) the female threaded members are rotatable about the axis of the shaft;
- b) the first female threaded member is provided with a first annular surface and the second female threaded member is provided with a second annular surface, wherein the annular surfaces on the female threaded members are provided with a plurality of inclined faces oriented circumferentially forming portions of an undulating annular surface; and
- c) a first washer body rotatable relative to the first female threaded member and a second washer body rotatable relative to the second female threaded member, the washer bodies are provided with a bearing surface and a clamping surface, wherein the clamping surface includes a plurality of protrusions and the bearing surface is axially opposed to the annular surface on the female threaded members and provided with a plurality of inclined faces oriented circumferentially and forming portions of an undulating bearing surface.

Claim 69 (previously presented) A male fastener, comprising:

- a) a shaft that includes an axis, a first end, and a second end;
- b) the shaft is provided with a trilobular shape with a first threaded surface and a second threaded surface;
- c) the first threaded surface includes a first locking thread, a first guide thread, and a first conventional thread;
- d) the second threaded surface includes a second locking thread, a second guide thread, and a second conventional thread;
- e) the first guide thread includes a first guide means for guiding the threads on the shaft into mating alignment with a first female thread of a first female threaded member so that the first female threaded member can be torqued onto the first threaded surface of the shaft;
- f) the second guide thread includes a second guide means for guiding the threads on the shaft into mating alignment with a second female thread of a second female threaded member so that the second female threaded member can be torqued onto the second threaded surface of the shaft;

- g) the first guide thread is generally located at the first end of the shaft and leads directly into the first conventional thread, the second guide thread is generally located at the second end of the shaft and leads directly into the second conventional thread;
- h) the first conventional thread is provided with a first generally Vee-shaped root including a first root diameter configured to mate with the first female thread of the first female threaded member so as to be freely rotatable thereon;
- i) the second conventional thread is provided with a second generally Vee-shaped root including a second root diameter configured to mate with the second female thread of the second female threaded member so as to be freely rotatable thereon;
- j) the first conventional thread and the second conventional thread include a generally constant shape that extends for a plurality of turns, the first conventional thread leads directly into the first locking thread, the second conventional thread leads directly into the second locking thread; and
- k) the first locking thread includes a first root surface provided with a third root diameter that is greater than the first root diameter, the second locking thread includes a second root surface provided with a fourth root diameter that is greater than the second root diameter, wherein the first locking thread is configured to re-form the first female thread to resist relative rotation between the shaft and the first female threaded member, and the second locking thread is configured to re-form the second female thread to resist relative rotation between the shaft and the second female threaded member.

Claim 70 (previously presented) The male fastener according to claim 69, wherein at least one of the root surfaces is angled relative to the axis of the shaft.

Claim 71 (previously presented) The male fastener according to claim 69, wherein at least one of the root surfaces is at an angle between four and eight degrees relative to the axis of the shaft.

Claim 72 (previously presented) The male fastener according to claim 69, wherein at least one of the guide means includes a curved surface located between a first side and a second side.

Claim 73 (previously presented) The male fastener according to claim 69, wherein at least one of the guide means includes a curved surface located between a first side that is curved and a second side that is curved.

Claim 74 (previously presented) The male fastener according to claim 69, further comprising a conical surface that is provided on the male fastener.

Claim 75 (previously presented) The male fastener according to claim 69, further comprising a conical surface and a cylindrical surface that are provided on the male fastener.

Claim 76 (previously presented) The male fastener according to claim 69, further comprising:

- a) the female threaded members are rotatable about the axis of the shaft;
- b) the first female threaded member is provided with a first annular surface and the second female threaded member is provided with a second annular surface, wherein the annular surfaces on the female threaded members are provided with a plurality of inclined faces oriented circumferentially forming portions of an undulating annular surface; and
- c) a first washer body rotatable relative to the first female threaded member and a second washer body rotatable relative to the second female threaded member, the washer bodies are provided with a bearing surface and a clamping surface, wherein the clamping surface includes a plurality of protrusions and the bearing surface is axially opposed to the annular surface on the female threaded members and provided with a plurality of inclined faces oriented circumferentially and forming portions of an undulating bearing surface.

Claim 77 (previously presented) A male fastener, comprising:

- a) a shaft that is provided with a trilobular shape with a first threaded surface and a second threaded surface, and that further includes a first guide thread, a first conventional thread, a first locking thread, a second guide thread, a second conventional thread, and a second locking thread;
- b) the first guide thread includes a first guide means for guiding the threads on the shaft into mating alignment with a first female thread of a first female threaded member;
- c) the second guide thread includes a second guide means for guiding the threads on the shaft into mating alignment with a second female thread of a second female threaded member;
- d) the first guide thread is generally located at a first end of the shaft and leads directly into the first conventional thread, the second guide thread is generally located at a second end of the shaft and leads directly into the second conventional thread;
- e) the first conventional thread is provided with a first generally Vee-shaped root including a first root diameter configured to mate with the first female thread of the first female threaded member so as to be freely rotatable thereon;
- f) the second conventional thread is provided with a second generally Vee-shaped root including a second root diameter configured to mate with the second female thread of the second female threaded member so as to be freely rotatable thereon;
- g) the first conventional thread and the second conventional thread include a generally constant shape that extends for a plurality of turns, the first conventional thread leads directly into the first locking thread, the second conventional thread leads directly into the second locking thread; and
- h) the first locking thread includes a first root surface provided with a third root diameter that is greater than the first root diameter, the second locking thread includes a second root surface provided with a fourth root diameter that is greater than the second root diameter, wherein the first locking thread is configured to re-form the first female thread to resist relative rotation between the shaft and the first female threaded member, and the second locking thread is

configured to re-form the second female thread to resist relative rotation between the shaft and the second female threaded member.

Claim 78 (previously presented) The male fastener according to claim 77, wherein at least one of the root surfaces is angled relative to an axis of the shaft.

Claim 79 (previously presented) The male fastener according to claim 77, wherein at least one of the root surfaces is at an angle between four and eight degrees relative to an axis of the shaft.

Claim 80 (previously presented) The male fastener according to claim 77, wherein at least one of the guide means includes a curved surface located between a first side and a second side.

Claim 81 (previously presented) The male fastener according to claim 77, wherein at least one of the guide means includes a curved surface located between a first side that is curved and a second side that is curved.

Claim 82 (previously presented) The male fastener according to claim 77, further comprising a conical surface that is provided on the male fastener.

Claim 83 (previously presented) The male fastener according to claim 77, further comprising a conical surface and a cylindrical surface that are provided on the male fastener.

Claim 84 (previously presented) The male fastener according to claim 77, further comprising:

- a) the female threaded members are rotatable about the axis of the shaft;
- b) the first female threaded member is provided with a first annular surface and the second female threaded member is provided with a second annular surface, wherein the annular surfaces on the female threaded members are provided with a plurality of inclined faces oriented circumferentially forming portions of an undulating annular surface; and

- c) a first washer body rotatable relative to the first female threaded member and a second washer body rotatable relative to the second female threaded member, the washer bodies are provided with a bearing surface and a clamping surface, wherein the clamping surface includes a plurality of protrusions and the bearing surface is axially opposed to the annular surface on the female threaded members and provided with a plurality of inclined faces oriented circumferentially and forming portions of an undulating bearing surface.